Space Weather Forecast

Issued on Tuesday, 27 June 2023 at 13:29 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Chance of isolated R1/R2 Radio Blackouts. Slight chance of Minor Geomagnetic Storms on 27 June.

Analysis of Space Weather Activity over past 24 hours
Solar Activity: Solar activity was Moderate, with one flare from the large region in the northwest quadrant. There are nine regions on total with a large and rapidly developing region in the northeast the most significant region. This became magnetically complex for a brief period, but has since simplified slightly. The remaining regions are all relatively simple, although a region close to the southeast limb may reveal increasing complexity as it rotates further onto the visible disc. A large CME (coronal mass ejection) was observed leaving the northeast portion of the disc on 26 June, but has been analysed as not being Earth-directed. A further eruption close to centre disc will be analysed once sufficient imagery is available.

Solar Wind / Geomagnetic Activity: The solar wind has waned through the period, falling from elevated to slightly elevated levels. Total magnetic field strength was weak, with the important north-south component also varying weakly. Resultant geomagnetic activity was Quiet to Unsettled.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) has been at background with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary
Solar Activity: Solar activity is expected to be Low to Moderate, with a very slight chance of Strong flares.

Solar Wind / Geomagnetic Activity: No Earth-directed CMEs are currently expected within the forecast period but there is potential for a weak glancing blow on 27 June. Solar wind speeds are expected to decline through the period, with only a possible weak connection to faster solar wind source in the southern hemisphere. Mainly Quiet to Unsettled geomagnetic activity is expected, with slight chance of Active to G1/Minor Storm intervals on 27 June.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is forecast to remain at background with no solar radiation storms occurring. There is a very slight chance of count rates increasing however, if any notable flares occur.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Met Office Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	10	5	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	Yes	50	50	50	50
Very Active	R3 to R5 X	No	5	5	5	5

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	5	5	5	5
Very Active	≥ S3 *	No	1	1	1	1
* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)						

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